

SEQUENCE LISTING

<110> FLINDERS TECHNOLOGIES PTY. LTD.

<120> A METHOD FOR PRODUCTIVITY IMPROVEMENT AND AGENTS USEFUL FOR SAME

<130> 12469560/TDO

<150> 60/485,241

<151> 2003-07-07

<160> 33

<170> PatentIn version 3.1

<210> 1

<211> 1158

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(1155)

<223> "n" is unknown nucleotide

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cggataacaac catttctcnc atggatgggt ggtggaaant ttttncgggtt gggatgggc	180
tcgcggccta tcacccttgtt ggtgggggtga tggcctacca aggcgacgaa cgtagcccc	240
cctgagaggg cgaccggcca cactggact gagacaccgc ccgaactcct acgggaggca	300
gcactgggga atattgccca tggcggaag cctgacgcag ngacgccgcg tggggatga	360
cggccttngg gttgtaaacc tnttcagca gggacgaagt tgacgtgtac ctgtagaaga	420
agcgccggct aaatangtgc cagcagccgc ggtaatangt agggcgcgag cgttntccgg	480

- 2 -

aattattggg cgtaaagagt tttaggtgg cttgttgcgt ttgccgtgaa agcccggtgc	540
ttaantacgg gtttgcggtg gatacggca ggctagaggc tggtaggggc aagcggaatt	600
cctggtgttag cggtgaaatg cgcatatc aggaggaaca ccggtggcga aggccggttg	660
ctgggccagt tctgacggtg aggagcgaaa gcgtggggag cgaacaggat tagataccct	720
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gtagctaacg catthaagcgc cccgcctggg gagtacggcc gcaaggctaa aactcaaagg	840
aattgacggg ggcccgcaca agccgcggag catgttgcctt aattcgacgc aacgcagaaga	900
accttaccaa ggttgacat acaccggaaa cactcanana tgggtgcctc ctggactg	960
gtgtacaggt ggtgcattgc tgtnncacc ctcgtgtcgt nagatgtngg gttaagtccc	1020
gcaacgancg caacccttgg ttccatgttg ccagcacncc ctggnggtg gtggggacnc	1080
atgganaat gccggggtn actcnggagg aaggtgggaa tgacgtcaag tnatcntgcc	1140
ccttatgttc ttgnngtg	1158

<210> 2
<211> 1437
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(1437)
<223> "n" is unknown nucleotide

<400> 2	
gctggcggcg tgcttaaacac atgcaagtcg aacgatgaac cacttcggtg gggattagt	60
gcgaacgggt gagtaacacg tggcaatct gcccttcaact ctgggacaag ccctggaaac	120
gggtctaat accggataac actnctgctc tcatggcag gggtaaaag ctccggcggt	180
gaaggatgag cccgcggcct atcagcttgt tggtgaggta atggctcacc aaggcgacga	240
cggtagccg gcctgagagg gcgaccggcc acactggcag tgagacacgg cccagactcc	300
tacgggaggc agcagtgggg aatattgcaa caatggcga aagcctgatg cagcgacgcc	360
gcgtgaggga tgacggcctt cgggtttaa acctcttca gcagggaaaga agcgaaagt	420
acggtacctg cagaagaagc gccggctaac tacgtgccag cagccgcgtt aatacgtagg	480
gcgcaagcgt tgtccgaaat tattggcgt aaagagctt taggcggcctt gtcacgtcgg	540

- 3 -

gtgtgaaagc ccggggctta accccgggtc tgcattcgat acgggctagc tagagtgtgg	600
taggggagat cggattcct ggttagcgg tgaaatgcgc agatatcagg aggaacaccg	660
gtggcgaagg cggatctctg ggccattact gacgctgagg agcgaaagcg tggggagcga	720
acaggattag ataccctggt agtccacgcc gtaaacggtg ggaacttaggt gttggcgaca	780
ttccacgtcg tcgggtccgc agctaacgca ttaagttccc cgccctggga gtacggccgc	840
aaggctaaaa ctcaaaggaa ttgacggggg cccgcacaag cagoggagca tgtggcttaa	900
ttcgacgcaa cgcaagaac cttaccaagg cttgacatac accggaaagc atcagagatg	960
gtgccccctc tgtggttcgg tgtacaggtg gtgcattggct gtcgtcagct cgtgtcgtga	1020
gatgttgggt taagtccgc aacgagcgca acccttgttc tgtgttgcca gcatgccctt	1080
cggggtgatg gggactcaca ggagaccgccc ggggtcaact cggaggaagg tggggacgac	1140
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gagctgcgt accgtgaggt ggagcgaatc tcaaaaagcc ggtctcagtt cggattgggg	1260
tctgcaactc gacccatga agtcggagtt gctaataatc gcanatcagc attgctgcgg	1320
tgaatacgtt cccgggcatt gtacacacccg cccgtcacgt cacgaaagtc ggtaaacaccc	1380
gaagccggtg gccaaccctc tgtgggaggg agctgtcgaa ggtgggactg gcgatttgcg	1437

<210> 3
<211> 317
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(311)
<223> "n" is unknown nucleotide

<400> 3
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actcgggtt aagcccnag cttcacatc cgacgtgaca agccgcctac aanctcttta
cgcccaataa ttccgganaa cgctcgacc ctacntntta cccggctgc tggcncgtnt
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tacaacccta nggccgt
.

<210> 4
<211> 1048
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(1043)
<223> "n" is unknown nucleotide

<400> 4

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ggtacctgca gaagaagcgc cgnctaacta cggcccgagca tccgcggtaa tacgttaggg	120
gcaatcggttgc tccggaattta ntggcgtaa agagntcgta ggcggcttat cacgtcggt	180
gtgaaagccc ggggcttaag ccccggtct gcattcgata cgggctagct agantntgnt	240
agggagatc ggaattcctg gtgtagcggt gaaatgcgc a gatatcagga ggaacaccgg	300
tggcgaaggc ggatctctgg gccattactg acgctgagga gcgaaagcgt gggagcgaa	360
caggattaga taccctggta gtcacacgccc taaacggtgg gaacttaggtg ttggcgacat	420
tccacgtcgt cggtgccgca gctaacgcata taagttcccc gcctggggag tacggccgca	480
aggctaaaac tcaaaggaaat tgacgggggc ccgcacaagc agcggagcat gtggcttaat	540
tcgacgcaac gcgaagaacc ttaccaaggc ttgacataca ccggaaagca tcagagatgg	600
tgcggccctt gtggtcggtg taoaggtggt gcatggctgt cgtcagctcg tgtcgtgaga	660
tgttgggtta agtcccgcaa cgagcgcaac cttgggtct gtgttgcag catgcccttc	720
gggggtgatgg ggactcacag gagaacgccc gggtaactc ggaggaaggt ggggacgacg	780
tcaagtcatc atgcccctta tgtcttggc tgcacacgtc ctacaatggc aggtaaatga	840
gctgcgatac cgtgagggtgg agcgaatctc aaaaaagct gtctcanttc ggattgggt	900
ctgnaantcg accccatgaa agtcggagtt gctaattatc ccagatcaac attgctggcg	960
gtgaatacgt tcccgggcc ttggtaaaca ccgccccgtca angtnaagaa agtcggtaa	1020
caccggaaan ccggtgcc aancct	1048

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<210> 5
<211> 508
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)...(472)
<223> "n" is unknown nucleotide

<400> 5
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ttccnatctc cccttaccaca ctctanctan cccgtatcga atgcaaaccgggttaanc 120
cccggtttt cacacccgac ntgacaagcc gcctacaaac tctttacgcc caataattcc 180
ggacaacgct tgcccccctac ntattaccgc ggctgctggc acntattttag cccgcgttc 240
ttctgcaggt accgtcactt tcgcttcttc cctgctgaaa aagggttaca acccgaaggc 300
cgtcatccct cacgcggcgt cgctgcataa ggctttcgcc cattgtgcaa tattccccac 360
tgctgcctcc cntaggaatc tggccgtgt ctcaatccag tgtggccggc cccctctcng 420
gccggctacc gtcntccctt ggtnaccatt anctcaccaa caactgatag gnccggcgt 480
catttcactcg cggaaacctt caaccacc 508

<210> 6
<211> 1420
<212> DNA
<213> actinomycete

<400> 6
ggcggcgtgc ttaacacatg caagtgcgaac gatgaagccc ttccgggtgg attagtggcg 60
aacgggtgag taacacgtgg gcaatctgcc cttcactctg ggacaagccc tggaaacggg 120
gtctaatacc ggatacgtatt cgggaggcat ctccctggtag tggaaagctc cggcggtgaa 180
ggatgagccc gcggcctatc agcttgggtgt gggtaatggc ctaccaaggc gacgacgggt 240
agccggcctg agagggcgcac cggccacact gggactgaga cacggcccaag actccctacgg 300
gaggcagcag tggggatat tgcacaatgg gcgaaagcct gatgcagcga cggccgtga 360
gggatgacgg cttccgggtt gttaaacctct ttcagcagg aagaagcggag agtgcacggta 420

- 6 -

cctgcagaag aagcgccggc taactacgtg ccagcagccg cggttaatacg tagggcgcaa	480
gcgttgtccg gaattattgg gcgtaaagag ctcttaggcg gcttgcacg tcgggtgtga	540
aagccccgggg cttAACCCG ggtctgcate cgatacgggc aggctagagt gtggtagggg	600
agatcggaat tcctggtgta gcggtaaat gcgcagatat caggaggaac accggtggcg	660
aaggcggatc tctggccat tactgacgt gaggagcgaa agcgtggga gccaacagga	720
ttagataccc tggtagtcca cgccgtaaac gttggaaacta ggtgttggcg acattccacg	780
tcgtcggtgc cgcaagctaac gcattaagtt ccccgctgg ggagtacggc cgcaaggcta	840
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caacgcgaag aaccttacca aggcttgaca tataccggaa agcgcagag atggtcccc	960
ccttgggtgc ggtatacagg tggtgcatgg ctgtcgtag ctcgtgtcg gagatgttgg	1020
gttaagtccc gcaacgagcg caacccttgt cctgtgtgc cagcatgccc ttgggggtga	1080
tggggactca caggagaccg ccgggtcaa ctggaggaa ggtggggacg acgtcaagtc	1140
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atgcgttgcag gggagcgaa tctaaaaag ccggtctcgat ttcggattgg ggtctgcaac	1260
tcgacccat gaagtcggag ttgttagtaa tcgcagatca gcattgtgc ggtgaatacg	1320
ttccggggcc ttgtacacac cgccgtcac gtcacgaaag tcggtaaacac ccgaagccgg	1380
tggcccaacc cctcgggag ggagctgtcg aaggtgggac	1420

<210> 7
<211> 1239
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(1217)
<223> "n" is unknown nucleotide

<400> 7

gcttnttggt gggncnatgg cctaccaagg ngaggacggn tanccngcct gngagggaga	60
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ttgcacaang ggcgaaagcc tcatgcagng angccgcgtg agggaaagacg gcctttgggt	180
tgttaaacctn tttnagcagg qaagaagcga aagtgcgtt acctgcagaa gaagcgccgg	240

- 7 -

ctaantangt	gccagcagcc	gcggtaatan	gtagggcgca	agcgttgtcc	ggaattattg	300
ggcgtaaaga	gctttaggc	ggcttgcac	gtnggatgtg	aaagcccggg	gcttaacccc	360
gggttgcac	ttgatacggg	ctagctagag	tgtggtaggg	gagatnggaa	ttcctggtgt	420
agcggtgaaa	tgcgcagata	tcaggaggaa	caccggtggc	gaaggcggat	ctctggcca	480
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acgccgtaaa	cgttgggaac	taggtgttgg	cgacattcca	cgtcgtcggt	gccgcagcta	600
acgcattaag	ttccccgcct	ggggagtacg	gccgcaaggc	taaaactcaa	aggaattgac	660
gggggcccgc	acaaggcagcg	gagcatgtgg	cttaattcga	cgcaacgcga	agaaccttac	720
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gaatctaaa	aagccgtct	cagttcggat	tggggctctg	naactcgacc	ccatgaantc	1080
ggagttgcta	ataatccaa	attcancatt	gtgcggtga	atacttcccg	ggcctggtac	1140
acnaccgccc	gtcaactcac	gaaagtcggt	naaaccgaa	accggtgggc	caacccttg	1200
tgggaaggaa	ctggccnaag	tggactggc	gattgggac			1239

<210> 8
<211> 431
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(424)
<223> "n" is unknown nucleotide

<400> 8
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ccnatctccc ctaccacact ctagctagcc cgtatcaaat gcaaaccggg ggttaagccc 120
cgggcttca catccnacgt gacaagccgc ctacaanctc tttacgcccataattccgg 180
acaacgcttg cgccctacnt attaccggcgg ctgctggcac ntattnagcc ggcccttctt 240

- 8 -

ctgcaggtac cgtcaacttc gctncttccc tgctgaaana ggtttacaac ccaaaggcn	300
tcatccctcn ccggcncntc tgcntcngc ttncnccat tggtaannt tccccactgc	360
tncctccctt cggaatctgg gccgntgtct cattcccnnt ntggccggtc cccctcncag	420
gccngctacc c	431

<210> 9
<211> 653
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(640)
<223> "n" is unknown nucleotide

<400> 9

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gcatttcacc gctacaccag gaattccnat ctcccctacc acactcttagc tagcccgat	120
cnaatgcaaa cccggggta ancccccggc tttcacatcc nacntgacaa gccgcctaca	180
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nccattgtg caatattccc cactgctgcc tcccgtagga ttctggccg tntctcattc	420
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<210> 10
<211> 1444
<212> DNA
<213> actinomycete

- 9 -

<400> 10
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ctggaaacgg ggtctaatac cgatatacac tctgtcccgc atgggacggg gttgaaagct 180
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aacaccggtg gcgaaggcgg atctctggc cattactgac gtctgaggag cgaaacgcgt 720
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tggcgacatt ccacgtcgcc ggtgcccgag ctaacgcatt aagtccccg cctggggagt 840
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tggcttaatt cgacgcacg cgaagaacct taccaaggct tgacatatac cgaaaagcat 960
cagagatggt gcccccttg tggcggtat acaggtggtg catggctgac gtcagctgt 1020
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attgggtct gcaactcgac cccatgaagt cggagttgt agtaatcgca gatcagcatt 1320
gctgcgggtga atacgttccc gggccttgta cacaccgccc gtcacgtcac gaaagtcgg 1380
aacacccgaa gccggtgcc caacccttgtt gggagggagc tgtcgaaggt gggactggcg 1440
attg 1444

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<210> 11
<211> 503
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)...(499)
<223> "n" is unknown nucleotide

<400> 11
ccgccttcgc caccgggtt cctcctgata tctgcgcatt tcaccgctac accaggaatt 60
ccnatctccc ctaccgaact ctanccctgcc cgtatcnact gcaaaccggg ggttaagccc 120
cgggcttca caaccgacnt gacaagccgc ctacaanctc ttacnccca ataattccgg 180
acaacgcttg cgccctacnt attaccgcgg ctgctggcac ntattttagcc ggcgcttctt 240
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tcntccctca cgcggcgtcg ctgcatcagg ctttcgcccc ttgtgcaata ttccccactg 360
ctgcctcccg taggattctg ggccgtgtct cantcccant ntggccggtc ccctctcagg 420
ccggntaccc gtcgtccctt ggtgaaccnc tacctcncca acaanctgat agggcgcggg 480
ctcancntgc acgcccgganc ttt 503

<210> 12
<211> 1173
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)...(1144)
<223> "n" is unknown nucleotide

<400> 12
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agtaaanangt gggcaatttg cccttcattt tggacaagcc ctggaaacgg gtttaataacc 120
ggataaacatt ttntcccgca tgggangggg ttgaaagntc cggcggtgaa ggatgagccc 180
gcggcctatn agcttgggttgg tggggtaatg gcctacccaa gggagacggg tagccggcct 240

- 11 -

gagagggcga	ccggccacac	tgggaatgag	anacggccca	gaatcctacg	ggaggcagca	300
gtgggaaata	ttgcacaatg	ggcgaaagcc	tgatgcagcg	angccgcgtg	agggatgacg	360
gccttnggt	tgtaaacctt	tttnagcagg	gaagaagcga	aagtgcacgg	acctgcagaa	420
gaagcgccgg	ctaaataagt	gccagcagcc	gcggtaataa	gtagggcgca	agcgttgtcc	480
ggaattattg	ggcgtaaaga	gctttaggc	ggcttgcac	gtnggatgtg	aaagccccggg	540
gnttaacccc	gggtttgcat	ttgatacggg	cgttagtgc	tgtggtaggg	gagatnggaa	600
ttcctgggt	agcggtgaaa	tgcgcagata	tcaggagggaa	caccgggtggc	gaaggcggat	660
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ctggtagtcc	acgcccgtaaa	cgttggaaac	taggtgttgg	cgacattcca	cgtcgctgg	780
gccgcagcta	acgcattaag	ttccccgnct	ggggagtagc	gccgcaggc	taanactcaa	840
aggaattgac	gggggcccgn	acaagcagcg	gancatgtgg	cttaattcga	cgcancgcga	900
agaaccttac	caaggcttga	catataccgg	aaagcatcag	agatggtgc	ccccttgtgg	960
tcgntataca	ngtggtgcac	gnctgtcg	acctcg	gtgagatgtt	gggttaagtc	1020
ccgcaacgag	cgcnaccctt	gnctgtgtt	gnancatgc	ccttcgggn	tgatgggac	1080
tcacaggana	ctgnccgggg	tcaactccgg	angaaggtag	gtgacgaagt	caaggcatac	1140
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<210> 13

<211> 1404

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(493)

<223> "n" is unknown nucleotide

<400> 13

ttcgnggtg	gantagnngc	gnacggngna	ccaacangng	ggcaatcccc	ccttcanttt	60
nggacaaccc	ctggaaacgg	gttnataaac	cgataaacan	tttntcccg	catgggangg	120
ggttgaaagc	tccggcggtg	aaggatgagc	ccgcggccta	tcagcttgtt	ggtggggtaa	180
tggcctacca	aggcgacgac	ggtagccgg	cctgagaggg	cgaccggcca	cactgggant	240
gaganacggc	ccagaatcct	acgggaggca	gcagtgggaa	atattgcaca	atggcggaaa	300

- 12 -

gcctgatgca	gcgacgcccgc	gtgagggatg	acggccttcg	ggttgtaaac	ctttttcagc	360
agggaagaag	cggaaagtgcac	ggtacctgca	gaagaagcgc	cggctaaata	ngtgccagca	420
gcccgcgtaa	tangtagggc	gcaagcggttgc	tccggaattta	ttgggcgtaa	agagnnntgta	480
ggcggcttgt	cangtcggat	gtgaaagccc	ggggcttaac	cccggttttgc	cattcgatac	540
gggctagcta	gagtgtggta	ggggagatcg	gaattcctgg	tgtagcggttgc	aatgcgcag	600
atatcaggag	gaacaccggt	ggcgaaggcg	gatctctggg	ccattactga	cgctgaggag	660
cgaaagcgtg	gggagcgaac	aggaattaga	taccctggta	gtcccacgccc	taaacgttgg	720
gaactaggtg	ttggcgacat	tccacgtcgt	cggtgccgca	gctaacgcata	taagttcccc	780
gcctggggag	tacggcccgc	aaggctaaaa	ctcaaaggaa	ttgacggggg	ccgcacaag	840
cagcggagca	tgtggcttaa	ttcgacgca	cgcgaagaac	cttacccaagg	ttgacatata	900
accggaaagc	atcagagatg	gtgccccct	tgtggtcgtt	atacaggtgg	tgcataggctg	960
tcgtcagctc	gtgtcgtgag	atgttgggtt	aagtcccgca	acgagcgca	cccttggttc	1020
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ctcggaggaa	ggtggggacg	acgtcaagtc	atcatgcccc	ttatgtcttgc	ggctgcaca	1140
cgtgtacaa	tggccggta	aatgagctgc	gatgccgcga	aggcggagcg	aatctcaaaa	1200
aagccggct	cagttcggat	tgggtctgc	aactcgaccc	catgaagtgc	gagttgttag	1260
taatcgcaga	tcagcatgc	tgcgtgaat	acgttcccg	gccttgcata	caccgccccgt	1320
cacgtcacga	aagtcggtaa	cacccgaagc	cggtggtcca	acccttgtg	ggagggagct	1380
gtcgaaggtg	ggactggcga	ttgg				1404

<210> 14
<211> 1411
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(1411)
<223> "n" is unknown nucleotide

<400> 14
aacacatgca agtcgaacga tgaagccgct tcgggtggattagtgccg aacgggtgag 60
taaacacgtgg ccaantgtgn ccgtcaactat gggacgaaga ctttggaaac ggggtcta 120

- 13 -

accggataac	actctgtccc	gcatgggacg	gggttcaaag	ctccggcggt	gaaggatgag	180
ccccgcggcct	atcagcttgt	tgggtgggta	atggcctacc	aaggcgacga	cggtagccg	240
gcctgagagg	gcgaccggcc	acactggac	tgagacacgg	cccagactcc	tacgggaggc	300
agcagtgggg	aatattgcac	aatgggcgaa	agcctgatgc	agcgacgccc	cgtgagggat	360
gacggccttc	gggttgtaaa	cctctttcag	cagggaaagaa	gcgaaaagtga	cgttacctgc	420
agaagaagcg	ccggctaact	acgtgccagc	agccgcggta	atacgttaggg	cgcaagcggt	480
gtccggaatt	attgggcgta	aagagctcg	aggcggcttgc	tcacgtcgga	tgtgaaagcc	540
cggggcttaa	ccccgggtct	gcattcgata	cgggctagct	agagtgtggt	aggggagatc	600
ggaattcctg	gtgttagcggt	gaaatgcgca	gatattcagg	aggaacacccg	gtggcgaagg	660
cggatctctg	ggccattact	gacgctgagg	agcgaaagcg	tggggagcga	acaggattat	720
atacccttgtt	agtccacgcc	gtaaacgttg	ggaacttaggt	gttggcgaca	ttccacgtcg	780
tcgggtccgc	agctaacgca	ttaagttccc	cgcctgggaa	gtacggccgc	aaggctaaaa	840
ctcaaaggaa	ttgacggggg	ccgcacaaag	cagcggagca	tgtggcttaa	ttcgacgcaa	900
cgcgaagaac	cttaccaagg	cttgacatat	accggaaagc	atcagagatg	gtgccccct	960
tgtggtcggt	atacaggtgg	tgcattggctg	tcgtcanctc	gtgtcgtgag	atgttgggtt	1020
aagtcccgca	acgagcgaa	cccttgttct	gtgttgccag	catgcccttc	gggggtgatgg	1080
ggactcacag	gagactgccg	gggtcaactc	ggaggaaggt	ggggacgacg	tcaagtcatc	1140
atgcccctta	tgtcttgggc	tgcacacgtg	ctacaatggc	cgctacaatg	acctgcgatg	1200
ccgcgaggcg	gaccgaatct	caaacaagcc	cgtctcattc	ggattgcggt	ctgcaactcc	1260
gaccccatga	agtccgactt	gctagtagtgc	gcacgtcaac	attgctgcgc	tgaatacgtc	1320
cccgggcctt	gtacacacccg	cccgtcacgt	cacgaaagtc	ggtaaacaccc	gaagccgggtg	1380
gnccaacccc	ttgtgggagg	gagctgtcga	a			1411

<210> 15
<211> 562
<212> DNA
<213> actinomycete

<220> .
<221> misc_feature
<222> (1)..(547)
<223> "n" is unknown nucleotide

<400> 15

ccgccttcgc caccgggttt cctcctgata tctgcgcatt tcaccgctac accaggaatt 60
ccnatctccc ctaccacact ctagctancc cgtatcnat gcaaaccggg ggttaacccc 120
cgggcttca cacccnacnt nacaancgc ctacaaactc ttacgcccataattccgg 180
acaacgcttg cgccctactt attaccgcgg ctgctggcac ttathtagcc ggcgcttctt 240
ctgcaggtac cgtcacttc gcttcttccc tgctaaaaaa ggtttacaac ccgaaggcng 300
tcatccctca cgccgcntcg ctgcatcagg ctttcgccca ttgtgcaata ttccccactg 360
ctgcctcccg tagnantctg ggccgtntct cantccagt gtggncggtc gccctctcag 420
gccggctacc cgtcgtcncc tnggtnaacc attanntcac caacaagctg ataggccg 480
ggctcatcct tcaccgcccgg agcttttaac ccctgcccattaaaacagan gtnttatccg 540
gtattanaac ccgtttccag gg 562

<210> 16

<211> 1390

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(1362)

<223> "n" is unknown nucleotide

<400> 16

atgcaagtcg agcggaaagg cccttcgggg tactcgagcg gcgaacgggt gagtaaacacg 60
tgagttaatc tgccccaggc tctggatacc cacccggaaaa cggtgattaa taccgaatac 120
gacaaccgat ttgcatgatc tgggggtgna aagttttcg gcctggatg tgcttcgcgg 180
cctatcagct tggtggtag gtaatggctc acccaaggct tcgacggtag ccggcctgag 240
agggtgaccg nccacactgg gactgagaca cggcccagac tcctacggga ggcagcagtg 300
ggaatatattg gacaatgggc ggaagcctga tccagcaacg ccgcgtgagg gatgacggcc 360
ttcgggttgt aaacctcttt cagcacagac gaagcgcaag tgacggtag tgcaagaagaa 420
ggaccggcca actacgtgcc agcagccgctg gtaatacgta gggtccgagc gttgtccgga 480
attattggc gtaaagggt cgtaggcggt ctgtcgcgtc gggagtgaaa accaggtgct 540

- 15 -

taacacctgg cctgcttcg atacgggcag nctagaggta cncaggggag aatgaaattc	600
ctgggttagc ggtgaaatgc gcagatatca ggaggaaaca ccggtggcga agncggtct	660
ctgggagtat cctgacgctg aggagcgaaa gtgtgggag cgaacaggat tagataccct	720
ggtagtccac accgtaaacg ttggcgcta ggtgtggac acattccacg tttccgtgc	780
cgcagctaac gcattaancg ccccgctgg ggagtacggc cgcaangcta aaactcanag	840
gaattgacgg gggcccgcac aagcggcgg acatgcccgt taattcgatg caacgcgaag	900
aaccttacct gggtttgaca taçaccggaa agccgtacag atacggcccc ttttagtcgg	960
tgtacaggtg gtgcattggct gtcgtcagct cgctgtcgtg agatgttcgg gttaagtccc	1020
gcaacgagcg caaccctcg cctatgtgc cagcaattcg gtggggact cataggagac	1080
tgccggggtc aactcggagg aaggtggga tgacgtcaag tcattatgtcc cttatgtcc	1140
agggcttcac gcatgctaca atggccggta caaaggctg cgatcccgtg agggtgagcg	1200
aatcccaaaa agccggcttc agttcggatt ggggtctgca actcgacccc atgaagtcgg	1260
agtcgctagt aatcgcagat cagcaacgct gcggtaata cttccggg cttgtacac	1320
accgccccgtc acgtcacgaa agtcggcaac acccgaagcc antggcccaa ctcgtaagag	1380
agggagctgt	1390

<210> 17
<211> 1411
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(638)
<223> "n" is unknown nucleotide

<400> 17	
gtgcttaaca catgcaagtc gaacgatgaa gccgcttcgg tggggattt gtggcgaacg	60
ggtagtaac acgtggccaa tctgcccttc actctggac aagccctgga aacggggct	120
aataccggat aacactctgt cccgcatggg acgggggtga aagctccggc ggtgaaggat	180
gagcccgccgg cctatcagct tgggggtggg taatggccta ccaaggcgac gacgggtac	240
ccgcctgaga gggcgaccgg ccacactggg actgagacac ggcccagact cttacgggag	300
gcagcagtgg ggaatattgc acaatggcgg aaagcctgat gcagcgacgc cgctgtgggg	360

- 16 -

atgacggcct tcgggttgta aaccttttc agcagggaaag aagcgaaagt gacggtacct	420
gcagaagaag cgccggctaa ctacgtgcc a cagccgcgg taatacgtag ggcccaagcg	480
ttgtccggaa ttattggcg taaagagctc gtagggcgct tgtcacgtcg gatgtgaaag	540
cccggggctt aaccccggt ctgcattcga tacggctag ctagagtgtg gtaggggaga	600
tcggaattcc tggtgttagcg gtgaaatgcg cagatatnca ggaggaacac cgggtggcgaa	660
ggcggatctc tggccattac tgacgctgag gagcgaaagc gtggggagcg aacaggatta	720
gataccctgg tagtccacgc cgtaaacgtt gggacttagg tggcgcac attccacgtc	780
gtcggtgccg cagctgaacg cattaagttc cccgcctggg gagtacggcc gcaaggctaa	840
aactcaaagg aattgacggg ggccgcaca agcagcggag catgtggctt aattcgacgc	900
aacgogaaga accttaccaa ggcttgacat ataccgaaa gcatcagaga tggtgcccc	960
cttgggtcg gtatacaggt ggtgcattgc tgtcgtcagc tcgtgtcgta agatgttggg	1020
ttaagtcccg caacgagcgc aacccttgtt ctgtgttgcc agcatgccct tcgggggtgat	1080
ggggactcac aggagactgc cgggtcaac tcggaggaag gtggggacga cgtcaagtca	1140
tcatgcccct tatgtcttgg gctgcacacg tgctacaatg gccggtaaaaa tgagctgcga	1200
tgccgcgagg cggagcgaat ctcaaaaagc cggtctcagt tcggattggg gtctgcaact	1260
cggccatg aagtccggagt tgctagtaat cgcagatcag cattgctgcg gtgaatacgt	1320
tcccgccct tgtacacacc gccgtcacgt cacgaaagtc ggtaacaccc gaagccggtg	1380
gccccaccgc cttgtggag ggaactttcc a	1411

<210> 18

<211> 1370

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(1367)

<223> "n" is unknown nucleotide

<400> 18

atgcaagtna aacgatgaan ccntttgggg tggatttagtg gcgaacgggt gagtaanang	60
tggcaattt gcccattcaat ttgggacaag ccctggaaac ggggtntaat accggataac	120
antntgtccc gcatgggacg gggtaaaaag ctccggcggt gaaggatgag cccgcggcct	180
atnagcttgt tggtgggtg atggcctacc aaggcgacga cgggttagccg gcctgagagg	240

gcgaccggcc acactggac tgagacacgg cccagactcc tacgggaggc agcagtgggg	300
aatattgcac aatggcgaa agcctgatgc agcgacgccc cgtgagggat gacggccttc	360
gggttgtaaa cctttttag cagggaaagaa gcgaaagtga cggtacctgc agaagaagcg	420
ccggctaaat angtgccagc agccgcggta atangtaggg cgcaagcggt gtccggaatt	480
attggcgta aagagttgt aggccggttg tcacgtngga tgtgaaagcc cggggcttaa	540
ccccgggttt gcattcgata cgggctagct agagtgtggt aggggagatc ggaattcctg	600
gtgtagcggt gaaatgcgca gatatcagga ggaacacccgg tggcgaaggc ggatctctgg	660
gccattactg acgntgagga gcgaaagcgt ggggagcnaa cagnattaga taccctggta	720
gtccaagccg taaacgttgg gaactangtg ttggcgacat tccacgtcgt cnntgccgca	780
nctaacgcat taagttcccc gcctggggag tacggccgca aggctaanac tcaaaggaat	840
tgangnngc ccgcacaaggc agcggagcat gtggcttant tcnacgcanc gcgaagaacc	900
ttaccaaggt ttgccatata ccggaaagca tcagagatgg tgccccctt gtggcggtta	960
tacaggtggc gcntggctgt cgtcagctcg tgtcgtgaca tgttggtaa gtcccgtaa	1020
cgaggcgcaa cccttgtnnt gtgtngccag catgccttc ggggtgatgg ggactcacag	1080
gagactgccc gggtaactc ggaggaaggt ggggacgacg tcaagtcatc atgcccctta	1140
tgtcttggc tgcacacgtg ctacaatggc cggtacaatg agctgcgtatc ccgcgaggcg	1200
gagcaatct caaaaagccg gtntcagttc ggattgggt ctgcaactcg accccatgaa	1260
gtcggagttg ctagtaatcg cagatcagca ttgctgcggt gaatacgttc ccgggccttg	1320
tacacaccgc ccgtcacgtc acgaaagtcg gtaacacccgg aagccgntgg	1370

<210> 19
<211> 1162
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(1156)
<223> "n" is unknown nucleotide

<400> 19
gaacgatgaa gccgttccgg tggtggatta gtggcgaacg gtgagtaaaa gtggcaattt
ncccttcatt ttggacaaggc cctggaaacg ggttaanac cggataacat tntgtccgc

60

120

- 18 -

atgggacggg gttgaaagnt cccggcggtg aaggatgagc ccgcggcnta tcagcttgtt	180
ggtggggtaa tggcctacca aggcgacgac gggtagccgg cctgagaggg cgaccggcca	240
cactgggant gagacacggc ccagactcct acgggaggca gcagtggga atattgcaca	300
atgggcgaaa gcctgatgca gcgacgccgc gtgagggatg acggccttcg gttgtaaac	360
ctntttcagc agggaagaag cgaaagtgcac ggtacctgca gaagaagcgc cggctaaata	420
ngtgcagca gccgcggtaa tangtagggc gcaagcggtt tccggaatta ttggcgtaa	480
agagcttgc ggcggcttgt cangtcgat gtgaaagccc ggggcttaac cccgggttg	540
cattcgatac gggctagttt gagtgtggta ggggagatng gaattcctgg tgtagcggtg	600
aaatgcgcag atatcaggag gaacaccggt ggcgaaggcg gatctctgg ccattactga	660
cgctgaggag cgaaagcgtg gggagcnaac aggattagat accctggtag tccacgcccgt	720
aaacgttggg aactagggtgt tggcgacatt ccacgtcg tc ggtccgcag ctaacgcatt	780
aagttccccg cctggggagt acggccgcaa ggctaaaact caaaggaatt gacgggggcc	840
cgcacaagca gcggagcatg tggcttaatt cgacgcaacg cgaacaacct taccaaggct	900
tgacatatac cgaaaagcat canagatggt gcccccttg tggtcggtat acangtggtg	960
catggctgtc gtcagctcggt gtctgagat gttgggttan gtcccgcaac gagcgcnaacc	1020
cttggctgt gtcgnchagc atgcccttcg nggtgatggg gactcacang agactgnccgg	1080
ggtccactcg gaggaagggtg gcgacnacgt canntcatca tgccccctta tgtcttgggn	1140
ctggccacgt gcacnatgg cc	1162

<210> 20

<211> 1411

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(1404)

<223> "n" is unknown nucleotide

<400> 20

gctggcggcg tgcttaaacat atgcaagtcg aacgatgaag ccgcattcggt ggtggattag	60
tggcgaacgg gtgagtaaca cgtggcaat ctgcccttca ctctgggaca agccctggaa	120
acggggtcta ataccggata acactctgtc ccgcattggaa cgggggttggaa agctccggcg	180

- 19 -

gtgaaggatg agcccgccgc ctatcagctt gttgggtggg taatggccta ccaaggcgac	240
gacgggttagc cggcctgaga gggcgaccgg ccacactggg actgagacac ggcccagact	300
cctacgggag gcagcagtgg ggaatattgc acaatggcg aaagcctgat gcagcgacgc	360
cgcgtgaggg atgacggcct tcgggttgta aaccttttc agcagggaaag aagcgaaagt	420
gacggtacct gcagaagaag cgccggctaa ctacgtgcca gcagccgccc taatacgtag	480
ggcgcaagcg ttgtccggaa ttattggcg taaagagctc gttaggcccgt tgcacgtcg	540
gatgtgaaag cccggggctt aaccccggtt ctgcattcga tacggctag ctagagtgt	600
gtagggaga tcggaattcc tggtgttagcg gtgaaatgcg cagatatcag gaggaacacc	660
ggtggggaaag gcggatctct gggccattac tgacgctgag gagcgaaagc gtggggagcg	720
aacaggatta gataccctgg tagtccaagc cgtaaacgtt gggactang tggggcgac	780
attccacgtc gtcgggtcccg cagctaaccgc attaagttcc ccgtcctggg gatgtggcc	840
gcnaggctaa aactcaaagg aattgacggg ggcccgacaca agcagcggag catgtggctt	900
anttcgacgc nacgcgaaga accttnccaa ggctgacata taccggaaag catcacagat	960
ggtggcccccc ttgtggtcgg tatacagggt ggtgcattgc tggtcgtag ctcgtgtcg	1020
gagatgttgg gttaaagtccc gcaaagagcg caaccgtttt ctgtgttgc agcatgccc	1080
tcgggggtgat ggggactcac acgagactgt cngggtaac tcggaggaag gtggggacga	1140
cgtcaagttc atcatgcccc ttatgtcttgg ggtgcacac gngctacaat ggccggta	1200
atgagnnnnnn atgccgcgag gcccggcgaa tctcaaaaag ccggtctcgat ttccggattgg	1260
ggtctgcaac tgacccatg aagtcggagt tgcttagtaat cgcagatcag cattgctgcg	1320
gtgaatacgt ncccgccct ngtacacacc acccgtcacg tcacgaaagt cggtaacacc	1380
ctaagccggc gncccaaccc cttntggag g	1411

<210> 21
<211> 549
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(431)
<223> "n" is unknown nucleotide

- 20 -

<400> 21

ccaganatcc	gccttcgcca	ccggtgttcc	tcctgatatac	tgcgcatttc	accgctacac	60
caggaattcc	gatctccct	accacactct	agctagcccc	tatogaatgc	agacccgggg	120
ttaagccccg	ggcttcaca	tccgacgtga	caagccgcct	acgagcttctt	tacgcccata	180
aattccggac	aacgcttgcg	ccctacgtat	taccgcggct	gctggcacgt	agtttagccgg	240
cgcttcttct	gcaggtaccg	tcactttcgc	ttcttcctg	ctgaaagagg	tttacaaccc	300
gaaggncgtc	atccctcaca	cggcgtcgct	gcatcaggct	ttcgcccatt	gtgcaatatt	360
ccccactgct	gcctcccgta	ggagtctggg	ncgtgttcaa	tnccagtgg	ggcccggtcg	420
ccctctcagg	ncggctaccg	tcgtcgccct	ggtaggcatt	accacaacaa	gctgataggc	480
gggggtcatac	cttcaacgcc	ggagcttcaa	acccgccat	gccccacaag	tgtatccggt	540
attaaaaccc						549

<210> 22

<211> 672

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(643)

<223> "n" is unknown nucleotide

<400> 22

tca	gtnatgg	cccagaanga	tccgncttcg	ccaccggtgt	tcctcctgat	atctgcgcatt	60
ttc	accgcta	caccaggaat	tccgatctcc	cctaccacac	tctaactagc	ccgtatcgaa	120
tgc	agacccg	gggttaagcc	ccgggcttcc	acatccgacg	tgacaagccg	cctacgagct	180
ctt	nacgccc	aataattccg	gacaacgctt	gcccctacg	tattaccgcg	gctgctggca	240
cgt	tagttac	cgccgcttct	tctgcaggt	ccgtナacttt	cgcttcttcc	ctgctgaaag	300
agg	tttacaa	cccgaaggcc	gtcntccctc	acgcggcg	gctgcatacg	gcttcgccc	360
atn	gtgcant	atccccact	gntgnctccc	gtangagtct	ggccgtgtc	tca	420
tgt	ggccggt	cgnccctctca	ggccggctac	cgtcgtcgcc	ttggtaggn	attacccacc	480
aaca	agctga	tangtcgnng	gctcatcctt	caccgnccga	gnnttaaccc	cgtnccatgcg	540
ggac	acagatg	ttatccggta	ttanaccgt	atncaggct	tgtcccatag	tgaagggnag	600

- 21 -

atngccacgt gttatcacccg ttgcncacta atnatcancg aancggcttc atcggtcgac 660
ttgcatgtgt ta 672

<210> 23
<211> 678
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)...(648).
<223> "n" is unknown nucleotide

<400> 23
ctcagcgtca gtcatggcca agagatccgc cttcgccacc ggtgttcctc ctgtatata 60
gcgcatatca ccgctacacc aggaattccg atctccoccta ccacactcta gctagccgt 120
atcgaatgca gaccggggt taagccccgg gctttcacat ccgacgtgac aagccgccta 180
cgagctctt acgcccata attccggaca acgcttgcgc cctacgtatt accgggctg 240
ctggcacgta gttagccggc gcttcttctg caggtaccgt cacttcgct tcttccctgc 300
tgaaagaggt ttacaacccg aaggccgtca tccctcacgc ggcgtcgctg catcaggctt 360
tcgcccattg tgcaatattc cccactgctg cctcccgtag gagtctggc cgtgtctcag 420
tcccagtgtg gccggtcgcc ctctcaggcc ggctacccgt cgtcgccttgc gttagccatt 480
acccaccaac aagctgatag gcccgggct catccttcan cgnccggagct ttaacccgtc 540
catgcgggac agagtgttat ccggtattaa acccggttca gggcttgc canagtgaag 600
ggcagattgc cacgtgttat canccgttgc ncactaatca cancgaancg ggttcatcgt 660
tcgacttgca tgtgttaa 678

<210> 24
<211> 688
<212> DNA
<213> actinomycete

<220>
<221> misc_feature

- 22 -

<222> (1)..(666)

<223> "n" is unknown nucleotide

<400> 24

ggcccagana tccgncttcg ccaccggtgt tcctcctgaa tatctgcgca tttcaccgct	60
acaccaaggaa ttccgatctc ccctaccaca ctctaactag cccgtatcga atgcagaccc	120
ggggtaagc cccgggctt cacatccgac gtgacaagcc gcctacgagc tcttacgcc	180
caataattcc ggacaacgct tgccctac gtattaccgc ggctgctggc acgtaattag	240
ccggcgcttc ttctgcaggt accgtcaatt tcgcttcttc cctgctgaaa gaggttaca	300
acccgaaggc cgtcatccct cacgcggcgt cgctgcatca ggcttcgccc catttgcaa	360
tattccccac tgctgnctcc cgtangagtc tggccgtgt ctcagtccca gtgtggccgg	420
tcgncccttc aggccggcta ccgtcgctgc cttggtaggc cattacccca ccaacaagct	480
gatangccgn gggctcatcc ttcanctcg gagcttcaa ncccgccat gcgggacaga	540
gtgttatccg gtattanacc ccgtntcagg gcttgcctcan agtgaagggc agatngccac	600
gtgttatcac cgttcgccac taatnacanc gaaacggctt atcgtnccgac tgcatgtgtt	660
aacacncgca gcgttcgtcc tgagccag	688

<210> 25

<211> 702

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(658)

<223> "n" is unknown nucleotide

<400> 25

ccctcagggt cagtaatggg cccagagatc cgccttcgcc accggtgttc ctccctgaata	60
tctgcgcatt tcaccgctac accaggaatt ccgatctccc ctaccacact ctagctagcc	120
cgtatcgaaat gcagaccggg ggttaagccc cgggcttca catccgacgt gacaagccgc	180
ctacgagctc tttacgcccc ataattccgg acaacgcttg cgccctacgt attaccgcgg	240
ctgctggcac gtagttagcc ggcgcttctt ctgcaggtac cgtcactttc gcttcttccc	300
tgctgaaaga ggtttacaac ccgaaggccg tcatccctca cgccggcgtcg ctgcattcagg	360

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ctttcgccca ttgtgcaata ttccccactg ctgcctcccg taggagtctg ggccgtgtct	420
cagtcggcagggtc gccctctcag gcccggctanc cgtcgctgcc ttgggttaggc	480
attancccan caacaagctg ataggncgag ggctcatnct taaacgcccgg agctttcaan	540
cccggtccatg cgggacagag ttttatncgg tattaaaccc gtttcagggc ttgttccaga	600
gtgaagggca gattgccacg ttttatcaac cgttcggcac taatcacaac gaagcggntt	660
atcggttcgac ttgcattgtgt taacaagccg ccagcggtcg tc	702

<210> 26

<211> 711

<212> DNA

<213> actinomycete

<220>

<221> misc_feature

<222> (1)..(687)

<223> "n" is unknown nucleotide

<400> 26

tcagtaatgg cccagagatc cgccattcgcc accgggttcc ctcctggata tctgcgcatt	60
tcaccgctac accaggaatt ccgatctccc ctaccacact ctagctagcc cgtatcgaat	120
gcagaccggg ggttaagccc cgggctttca catccgacgt gacaagccgc ctacgagctc	180
tttacgcccataaattccgg acaacgcttg cgccctacgt attaccggcgg ctgctggcac	240
gtatgttagcc ggcgcttctt ctgcaggtac cgtcactttc gcttcttccc tgctgaaaga	300
ggtttacaac ccgaaggccg tcatccctca cgcggcgtcg ctgcacatcagg ctttcgcccata	360
tttgtcaata ttccccactg ctgcctcccg taggagtctg ggccgtgtct cagtcggcagggtc	420
gccctctcag gcccggctacc cgtcgctgcc ttgggttaggc attacccac	480
caacaagctg ataggcccg ggctcatcct tcaccgnccgg agctttaaacc ccttcggcatt	540
cgggacagag ttttatccgg tattagaacc cgtttccagg gcttgcacca gagtgaaggg	600
cagattgcca cgtgttactc anccggtcgn cactaatcan caacgaagcg gcttcacatcgt	660
tcgacttgca tgtgttaagc acgcccgcag cgttcgtcct gagccaggat c	711

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<210> 27
<211> 522
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)...(465)
<223> "n" is unknown nucleotide

<400> 27

tca	gtatcng	cccagagatc	cgc	c	ttcgcc	accgggtgtt	c	c	c	tgata	tctgcgcatt	60
t	caccgctac	accaggaatt	ccgatctccc	c	taccgaact	ctagc	c	tgc	cgact	gtatcgact	120	
g	cagacc	ccgg	gtt	aaggccc	cg	ggctt	ca	accgacgt	gaca	agccgc	ctacgagctc	180
t	ttacgccc	ataattccgg	acaacgcttg	c	gc	cctacgt	at	accgcgg	ctg	ctggcac	240	
g	tagttagcc	ggcg	c	ttt	tc	gcaggtac	c	gtcactt	gtt	c	tccccc	300
t	gtttacaaa	ccgaaggccg	tca	tc	c	ccgtcg	c	tc	gt	catcagg	cttcgccc	360
g	ttgtgcaata	ttccccactg	gtgn	ct	cc	tcccg	t	ang	gt	gtgtct	cantccagt	420
g	gggcgg	cctctcaggg	cgg	c	tac	ccgtcg	c	tc	g	tcgtct	ctcacaacaa	480
g	ctgtataggc	gcggg	ct	at	cg	acggc	g	gag	tt	ac	522	

<210> 28
<211> 670
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)...(638)
<223> "n" is unknown nucleotide

<400> 28

tca	gtatgg	cccaganatc	cgn	nttcg	cc	accgg	gtt	c	tcc	tgat	tgcgcattt	60
c	accgctaca	ccaggaattc	cgat	ct	ccccc	tacc	aca	ctc	taact	tagccc	gtatcgat	120
a	cagacc	ccgg	gtt	aaggccc	gg	ggctt	ca	ccgacgt	aca	agccgc	tacgagct	180
g	ttacgccc	taattccg	caac	gc	tgc	cc	tc	tac	ttac	cg	tcgtggc	240

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tagttagccg	gcgcttcttc	tgcaggtaacc	gtcactttcg	cttcttccct	gctgaaagag	300
gtttacaacc	cgaaggccgt	catccctcac	gcggcgtcgc	tgcataaggc	tttcgcccatt	360
tgtcaatat	tccccactgc	tgccctccgt	angagttctgg	gccgtgtctc	agtcccagtgc	420
tggccggtcg	ccctctcagg	ccggctaccg	tcgtcgccctt	ggtaggcccatt	tacccaccaa	480
caagctgata	ngncgngggc	tcatccttca	ccgnccggagc	tttcaanccc	gtcccatgctg	540
ggacagagtgc	ttatccggta	ttaaaccctgt	ntccagggtt	tgtccatagt	gaagggcaga	600
ttgccaagtgc	ttatcanccg	ttcgncacta	atcatcancg	aagcggcttc	atcggtcgac	660
	tgcatgtgtt					670

<210> 29
<211> 676
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(666)
<223> "n" is unknown nucleotide

<400> 29						
tcctcagnat	cagtaatggc	ccagagatcc	gccttgcaca	ccggtgttcc	tcctgatatac	60
tgcgcatttc	accgctacac	caggaattcc	gatctccctt	accacactct	anctagcccg	120
tatcaaatgc	agaccggggg	ttaagccccg	ggctttcaca	tccgangtga	caagccgcct	180
acgagcttt	tacgccccaaat	aattccggac	aangcttgcg	ccctacgtat	tacccgggnt	240
gctggcacgt	agtttagccgg	cgcttcttct	gcaggtaccg	tcactttcgc	ttcttccctg	300
ctgaaagagg	tttacaaccc	gaaggccgtc	atccctcactn	ccggcgctcgct	gcatcaggct	360
ttcggccatt	gtgcaatatt	ccccactgct	gcctcccgta	ggagtctggg	ccgtgtctca	420
atcccantgt	ggccgggtcgc	cctctcangc	cggttaccgt	cgtcgcttgg	taggcccatta	480
ccccaccaac	aagctggata	ggncgggggc	tcattttca	ccgcccggaaag	ctttaanccc	540
gtccatgcgg	gananagtgn	atcccnngtat	taaacccngt	ttcagggtt	gtccanagtgc	600
aaggngatt	gcccnaagtgt	ttatcncccg	ttcgccanta	atcnacaacg	aaagcggntt	660
cncgttgc	acttgc					676

<210> 30
<211> 626
<212> DNA
<213> actinomycete

<220>
<221> misc_feature
<222> (1)..(618)
<223> "n" is unknown nucleotide

<400> 30
taatggccca gaanatccgc cttcgccacc ggtgttcctc ctgaatatct gcgcatttca 60
ccgctacacc aggaattccg atctccccta ccacactcta gctagcccgat atcgaatgca 120
gaccgggggt taagccccgg gctttcacat ccgacgtgac aagccgccta cgagctctt 180
acgccaata attccggaca acgcttgccgc cctacgtatt accgoggctg ctggcacgta 240
gttagccggc gcttcttctg caggtaccgt cacttcgct tcttccctgc tgaaagaggt 300
ttacaacccg aaggccgtca tccctcacgc ggctcgctg catcaggctt tcgcccattt 360
tgcaatattc cccactgctg cctcccgtag gagtctggc cgtgtctcag tcccagtgtg 420
gcggtcgccc tctcaggccg gntancggc gtgccttgg tangccatta ncccaccaac 480
aagctgatan gccgnnggct catccttcan cgccggagct tttaaccccg tcccatgcgg 540
gacagagtgt tatccggtat tagatcccgat ntccagggt tgtnccatagt gaagggcana 600
ttgccacgtg ttactcancc gttcgc 626

<210> 31
<211> 20
<212> DNA
<213> primer

<400> 31
agagtttgat cmtggctcag 20

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<210> 32
<211> 21
<212> DNA
<213> primer

<400> 32
ctgtttgctc cccacgcctt c

21

<210> 33
<211> 22
<212> DNA
<213> primer

<400> 33
tacggtyacc ttgttacgac tt

22